

Schottky Barrier Rectifiers

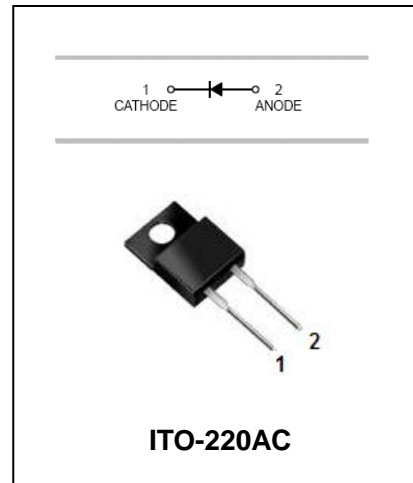
MBRF1630-MBRF16100

FEATURES

- High Surge Capacity.
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications.
- Metal Silicon Junction, Majority Carrier Conduction..
- High Current Capacity, Lowforward Voltage Drop.
- Guard Ring for Over Voltage Protection.



Lead-free



Ordering Information

| Part Number | Package | Shipping | Marking Code |
|-------------|-----------|----------|--------------|
| MBRF1630□ | ITO-220AC | 50/Tube | MBRF1630 |
| MBRF1635□ | ITO-220AC | 50/Tube | MBRF1635 |
| MBRF1640□ | ITO-220AC | 50/Tube | MBRF1640 |
| MBRF1645□ | ITO-220AC | 50/Tube | MBRF1645 |
| MBRF1650□ | ITO-220AC | 50/Tube | MBRF1650 |
| MBRF1660□ | ITO-220AC | 50/Tube | MBRF1660 |
| MBRF1680□ | ITO-220AC | 50/Tube | MBRF1680 |
| MBRF16100□ | ITO-220AC | 50/Tube | MBRF16100 |

□: none is for Lead Free package;

“G” is for Halogen Free package

MAXIMUM RATING operating temperature range applies unless otherwise specified

| Symbol | Parameter | MBRF 1630 | MBRF 1635 | MBRF 1640 | MBRF 1645 | MBRF 1650 | MBRF 1660 | MBRF 1680 | MBRF 16100 | Unit |
|-------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------|
| V_{RRM} | Repetitive Peak Reverse Voltage | 30 | 35 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| V_{RMS} | RMS Voltage | 21 | 25 | 28 | 32 | 35 | 42 | 56 | 70 | V |
| V_{DC} | DC Blocking Voltage | 30 | 35 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| $I_{F(AV)}$ | Average Forward Rectified Current @ $T_A=100^{\circ}C$ | 16 | | | | | | | | A |
| I_{FSM} | Peak Forward Surge Current 8.3ms Single Half-sine-wave superimposed on Rsted Load | 150 | | | | | | | | A |

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| | | | |
|-----------------|--------------------------------------|-------------|---------------|
| $R_{\theta JC}$ | Maximum Thermal Resistance(Note1) | 1.5 | $^{\circ}C/w$ |
| T_J | Operating Junction Temperature Range | -55 to +150 | $^{\circ}C$ |
| T_{STG} | Storage Temperature Range | -55 to +175 | $^{\circ}C$ |

Note:1.Thermal resistance from junction to case.

ELECTRICAL CHARACTERISTICS

| Parameter | Symbol | Test conditions | MBRF1630- MBRF1645 | MBRF1650- MBRF1660 | MBRF1680- MBRF16100 | UNIT |
|-----------------|---------------|---|-----------------------|-----------------------|------------------------|------|
| | | | MAX | | | |
| Reverse Current | I_R | $V_R=V_{RRM}, T_A=25^{\circ}C$ $V_R=V_{RRM}, T_A=125^{\circ}C$ | 0.1 15 | 0.1 25 | 0.1 50 | mA |
| Forward Voltage | V_F (Note1) | $I_F=16A, T_A=25^{\circ}C$ $I_F=16A, T_A=125^{\circ}C$ | 0.70 0.57 | 0.80 0.65 | 0.85 - | V |

Note:1.Pulse test:300 μ s width,1% duty cycle.

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified.

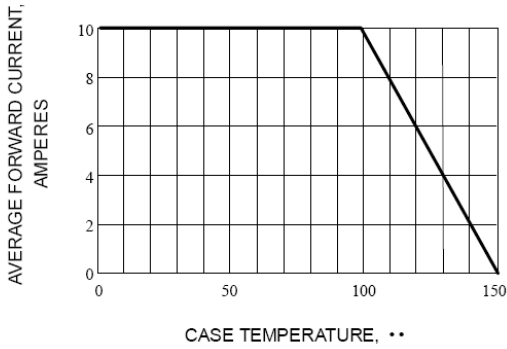


Fig. 1-FORWARD CURRENT DERATING CURVE

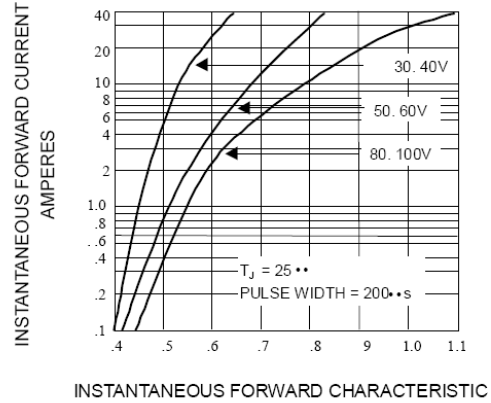


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

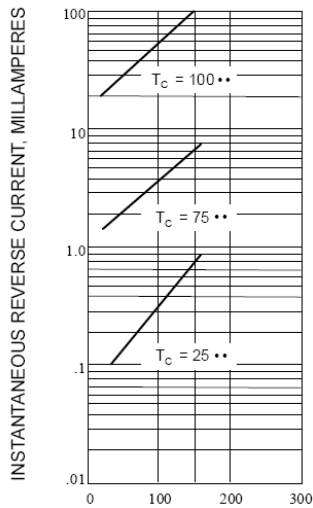


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

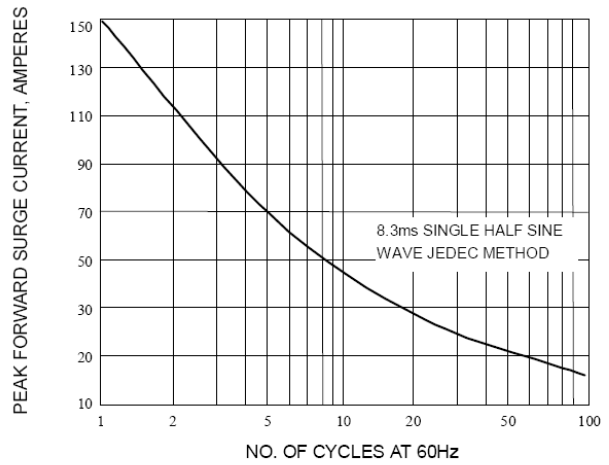


Fig. 4-MAXIMUM NON-REPETITIVE SURGE CURRENT

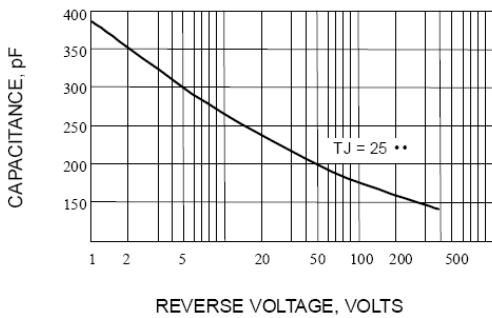


Fig. 5-TYPICAL JUNCTION CAPACITANCE

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PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AC

